

### **Remarks**

Claims 20-39 are amended herein. Claims 20-39 will be pending in this application after entry of this amendment. Claims 1-19 and 40 were previously cancelled. Applicants respectfully request reconsideration of the rejections in the Office action for the reasons set forth below.

#### Response to Drawing Rejection

Figure 1 has been amended to illustrate a Faraday cage.

#### Response to §112 Rejection

Claim 20 has been amended so it no longer includes recitation to "optional" electrical communication between the secondary component and the ASIC. Applicants note neither the presence nor absence of electrical communication between the secondary component and the ASIC excludes any device from the scope of claim 20.

#### Response to Prior Art Rejection

As amended, claim 20 is directed to a fluid sensor package comprising:

"a tuning fork resonator on a platform, the tuning fork resonator comprising tines, each tine having one or more surfaces, each tine further comprising an electrode, and a piezoelectric material selected from the group consisting of quartz and lithium niobate, wherein the electrodes are positioned to apply electrical fields to the piezoelectric materials in the respective tines to move said surfaces of the tines relative to the platform to displace a fluid in contact with the tines,

an application specific integrated circuit (ASIC) on the platform, the ASIC being in electrical communication with the electrode of each tine for providing stimulus to the tuning fork resonator and for receiving a response signal from the tuning fork resonator, the ASIC being operable to determine one or more characteristics of the fluid from the response signal, and

a secondary component on the platform and spaced from the ASIC, the secondary component being selected from the group consisting of a temperature sensor, a field programmable gate array, a calibration unit, a conductive path, a resistor, a capacitor, an amplifier, a filter, and combinations of two or more thereof."

The Office action relies on U.S. Patent 6,336,353 (Matsiev) for disclosure of a tuning fork resonator. Matsiev discloses stimulating the tuning fork resonator and receiving response signals from the tuning fork resonator using (i) a network analyzer or (ii) a frequency generator in combination with an AC voltmeter. The Matsiev reference fails to disclose use of an ASIC to stimulate and receive response signals from a tuning fork resonator of a fluid sensor. The other prior art relied on in the Office action also fails to disclose or suggest use of an ASIC to stimulate and receive response signals from a fluid sensor that includes a tuning fork resonator.

Further, absent applicants' disclosure in the present application (which incorporates the disclosure of commonly owned U.S. Patent No. 6,873,916 entitled "Application Specific Integrated Circuitry for Controlling Analysis of a Fluid"), it was not obvious to a person having ordinary skill in the art how to design an ASIC that would be

suitable for stimulating a tuning fork resonator and using a response signal from the tuning fork to determine one or more properties of a fluid and to incorporate such an ASIC in a fluid sensor assembly in which the ASIC, the tuning fork resonator, and a secondary component are on a common platform.

Claims 21-39 depend from claim 20 and are patentable for at least the same reasons.

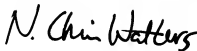
Claim 36 further specifies the fluid sensor package of includes a Faraday cage positioned to envelop the tuning fork resonator. The Office action fails to cite any prior art disclosing or suggesting a fluid sensor package including a Faraday cage in combination with all the other claimed features. Instead, the Office action relies on "Official Notice" that Faraday cages are employed in combination with sensors and/or circuitry to protect them from stray electrical fields and noise that might adversely affect the circuit and/or sensor operation. Although it is generally known that a Faraday cage is capable of shielding a device inside the cage from outside electrical interference, applicants do not believe it was obvious to envelop a tuning fork resonator of a fluid sensor having all the features set forth in the claim with a Faraday cage. Applicants respectfully request the Examiner to provide documentary evidence to support the Official Notice provided in the Office action. MPEP 2144.03.

**Conclusion**

Applicants respectfully request reconsideration of the rejection and allowance of the claims for the reasons set forth above.

The Commissioner is authorized to charge any fees that are required in connection with this application) to Deposit Account No. 19-1345 in the name of Senniger Powers.

Respectfully submitted,

A handwritten signature in black ink that reads "N. Chris Walters". The signature is written in a cursive, slightly slanted style.

N. Chris Walters, Reg. No. 52,338  
SENNIGER POWERS LLP  
One Metropolitan Square, 16th Fl  
St. Louis, Missouri 63102  
(314) 231-5400

NCW/bcw  
Via EFS